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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,920	07/07/2000	David J. Lindner	2007.0012900	7765

22879 7590 03/07/2005

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EXAMINER

SINGH, RACHNA

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/611,920

Applicant(s)

LINDNER, DAVID J.

Examiner

Rachna Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/9/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to communications: Appeal Brief filed 12/9/04.
2. Claims 1-44 are pending in the case. Claims 21-44 are newly added claims.

Claims 1, 6, 11, 16, 21, 27, 33, 39, and 42 are independent claims.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 16-20, 33-38, and 42-44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a "caching daemon". A daemon is a process that runs in the background and performs a specified operation at predefined times or in response to certain events and thus is directed to non-statutory subject matter since it does not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cluet, Sophie, Olga Kapitskaia, and Divesh Srivastava, "Using LDAP Directory Caches", ACM database, May 1999 in view of Luotonen, US 5,864,852, 1/26/99.

In reference to claim 1, Cluet teaches the use of LDAP directory caches. Cluet's system teaches that in order to achieve fast performance and high availability in LDAP network directories, it is desirable to cache information. See page 273. While Cluet does not delve into the details of the LDAP directory cache; Luotonen provides some insight. Luotonen teaches a system in which when a client requests a document, a proxy server determines if the file contained in the cache is up-to-date and delivers the document to the user if it is. If it is not up-to-date, the proxy server then it retrieves information from the origin server (directory server). See column 1, lines 39-50.

Compare to ***"determining if an application is requesting information from the directory server; determining if the requested information is stored in the caching daemon in response to determining that the application has requested information; and sending the requested information to the application."*** Luotonen further cites another caching proxy server, the Harvest Cache Daemon, see column 2, lines 9-15. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Cluet and Luotonen since both are concerned with providing a cache daemon with a directory server to improve performance as providing caching helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen. Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation

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when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

In reference to claim 2, Cluet teaches that the directory server is linked to a variety of network-based applications that store data and providing a cache storing those entries provides for efficient delivery of documents. Thus the directory server is not limited in its connections between various applications and a caching daemon. See page 273.

In reference to claims 3-5, Luotonen teaches that when a client requests a document, a proxy server determines if the file contained in the cache is up-to-date and delivers the document to the user if it is. If it is not up-to-date, the proxy server then it retrieves information from the origin server (directory server). See column 1, lines 39-50. Thus if the document were not stored in the cache originally, the proxy would then retrieve it from the remote server (directory server). The information is then stored in the proxy for future requests. See column 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Cluet and Luotonen since both are concerned with providing a cache daemon with a directory server to improve performance as providing caching helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen.

Claims 11-15 are rejected under the same rationale used in reference to claims 1-5 respectively above.

In reference to claims 6 and 8, Cluet teaches the use of LDAP directory caches. Cluet's system teaches that in order to achieve fast performance and high availability in

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LDAP network directories, it is desirable to cache information. See page 273. While Cluet does not delve into the details of the LDAP directory cache; Luotonen provides some insight. Luotonen teaches a system in which when a client requests a document, a proxy server determines if the file contained in the cache is up-to-date and delivers the document to the user if it is. If it is not up-to-date, the proxy server then it retrieves information from the origin server (directory server). See column 1, lines 39-50.

Compare to ***"a directory server for storing information; and a caching daemon adapted to establish a first plurality of connections to the directory server, determine if an application is requesting information from the directory server, determine if the requested information is stored within the caching daemon; and send the requested information to the application."*** Luotonen further cites another caching proxy server, the Harvest Cache Daemon, see column 2, lines 9-15. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Cluet and Luotonen since both are concerned with providing a cache daemon with a directory server to improve performance as providing caching helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen.

In reference to claim 7, Cluet teaches that the directory server is linked to a variety of network-based applications that store data and providing a cache storing those entries provides for efficient delivery of documents. Thus the directory server is not limited in its connections between various applications and a caching daemon. See page 273.

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In reference to claims 9 and 10, Luotonen teaches that when a client requests a document, a proxy server determines if the file contained in the cache is up-to-date and delivers the document to the user if it is. If it is not up-to-date, the proxy server then it retrieves information from the origin server (directory server). See column 1, lines 39-50. Thus if the document were not stored in the cache originally, the proxy would then retrieve it from the remote server (directory server). The information is then stored in the proxy for future requests. See column 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Cluet and Luotonen since both are concerned with providing a cache daemon with a directory server to improve performance as providing caching helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen.

Claims 16 and 17 are rejected under the same rationale used in claims 6 and 7 respectively above.

In reference to claims 18-20, Luotonen teaches that when a client requests a document, a proxy server determines if the file contained in the cache is up-to-date and delivers the document to the user if it is. If it is not up-to-date, the proxy server then it retrieves information from the origin server (directory server). See column 1, lines 39-50. Thus if the document were not stored in the cache originally, the proxy would then retrieve it from the remote server (directory server). The information is then stored in the proxy for future requests. See column 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Cluet and Luotonen since both are concerned with providing a cache daemon with a directory server to improve

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performance as providing caching helps achieve fast performance and high availability.

See page 273 or Cluet and column 1, lines 25-35 of Luotonen.

Claims 21-22 are rejected under the same rationale used in claim 1 above and further in view of the fact that Cluet teaches utilizing an LDAP caching daemon. See page 273, column 2 and page 276-277, "LDAP Directory Caches" of Cluet. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize an LDAP caching daemon as taught by Cluet in conjunction with Luotonen's system since both are concerned with providing a cache daemon with a directory server in order to improve performance as providing a cache helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen. Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

Claims 23-26 are rejected under the same rationale used above in claims 2-5 respectively.

Claim 27-28 are rejected under the same rationale used in claim 6 above and further in view of the fact that Cluet teaches utilizing an LDAP caching daemon. See page 273, column 2 and page 276-277, "LDAP Directory Caches" of Cluet. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize an LDAP caching daemon as taught by Cluet in conjunction with Luotonen's system since both are concerned with providing a cache daemon with a directory server in order to improve performance as providing a cache helps achieve fast performance



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and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen.

Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

Claims 29-32 are rejected under the same rationale used above in claims 7-10 respectively.

Claims 33-34 are rejected under the same rationale used above in claim 16 and further in view of the fact that Cluet teaches utilizing an LDAP caching daemon. See page 273, column 2 and page 276-277, "LDAP Directory Caches" of Cluet. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize an LDAP caching daemon as taught by Cluet in conjunction with Luotonen's system since both are concerned with providing a cache daemon with a directory server in order to improve performance as providing a cache helps achieve fast performance and high availability. See page 273 or Cluet and column 1, lines 25-35 of Luotonen. Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

Claims 35-38 are rejected under the same rationale used above in claims 17-20 respectively.

Claim 39 is rejected under the same rationale used in claim 1 above and further in view of the fact that Cluet teaches utilizing an LDAP caching daemon. See page 273, column 2 and page 276-277, "LDAP Directory Caches" of Cluet. It would have been

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obvious to a person of ordinary skill in the art at the time of the invention to utilize an LDAP caching daemon as taught by Cluet in conjunction with Luotonen's system since both are concerned with providing a cache daemon with a directory server in order to improve performance as providing a cache helps achieve fast performance and high availability. See page 273 of Cluet and column 1, lines 25-35 of Luotonen.

Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

Claims 40 is rejected under the same rationale used in claims 3 and 4 above.

Claim 41 is rejected under the same rationale used in claim 5 above.

Claim 42 is rejected under the same rationale used in claim 16 above and further in view of the fact that Cluet teaches utilizing an LDAP caching daemon. See page 273, column 2 and page 276-277, "LDAP Directory Caches" of Cluet. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize an LDAP caching daemon as taught by Cluet in conjunction with Luotonen's system since both are concerned with providing a cache daemon with a directory server in order to improve performance as providing a cache helps achieve fast performance and high availability. See page 273 of Cluet and column 1, lines 25-35 of Luotonen.

Furthermore, providing a cache with a directory server not only improves performance but also avoids latency which is a major limitation when the cache is not connected to the directory server (as taught by both Cluet and Luotonen).

Claims 43 is rejected under the same rationale used in claims 18 and 19 above.

Claim 44 is rejected under the same rationale used in claim 20.

**Response to Arguments**

7. Applicant's arguments filed 8/10/04 have been fully considered but they are not persuasive.

In reference to claims 1, 6, 11, and 16, Applicant argues that neither Cluet nor Luotonen teach or suggest that a plurality of connections should be simultaneously maintained between the caching daemon and the directory server. Examiner respectfully disagrees. Cluet's system teaches that it is desirable to cache information in LDAP network directories to achieve fast performance, etc. Cluet teaches that a client cache stores a subset of the data available at the directory server. See abstract and introduction in which Cluet states, ***"...it is desirable to cache information close to the applications that access the directory information. Such client caching has been established as an effective way to scale the performance of a client-server database architecture. Physical caching of directory entries occurs in LDAP directories."*** It is evident from Cluet's disclosure that he teaches maintaining a connection between the directory server and a caching daemon. Furthermore, Luotonen illustrates maintaining a connection between the directory server and the cache in figure 1. Luotonen further states that the invention includes cache architecture that provides a preallocated structure of directories. See column 3, lines 55-67.

Applicant also argues that Luotonen only teaches a connection to perform an "up-to-date" check when it is needed rather than maintain a connection. Examiner disagrees because Luotonen illustrates maintaining a connection between the directory

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server and the cache in figure 1. Luotonen further states that the invention includes cache architecture that provides a preallocated structure of directories. See column 3, lines 55-67. Examiner believes it is apparent from Luotonen's disclosure that the connection is continuously maintained in reference to the column and line numbers stated above and also in view of the "Background of the Invention" section. Luotonen teaches that it is "advantageous to provide a proxy server cache structure that stores and accesses documents in an optimum manner in a storage hierarchy that is easily managed". Furthermore, Luotonen identifies the shortcoming of prior art and achieves to cure those shortcomings in stating in column 2, "The ability to locate documents in a cache without latency induced by long path names and large directories is very important. It is also important to make it easy to clean up old cache documents . . ." In an effort to avoid latency, it is clear that Luotonen's connections are continuous.

Applicant further argues that Cluet teaches away from such a system in teaching that caching should be used to reduce client server communication. Examiner disagrees that Cluet teaches away from the invention since the purpose of utilizing a connection between the server and cache is to reduce client server communications. It is unclear to the Examiner why the Applicant feels the feature of utilizing a connection between the server and the cache would teach away from the feature of "simultaneously maintaining a plurality of connections between the directory server and caching daemon".



H 3/2/05

In view of the comments and rejection above, the Examiner's position has been maintained.

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachna Singh whose telephone number is 571-272-4099. The examiner can normally be reached on M-F (8:30AM-6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is N/A.

RS  
2/28/05

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER